

Claims

1. Radiation-curable unsaturated polyesterurethane resins **ABC** containing structural units derived from a polyester **A**, polyfunctional isocyanates **B**, and olefinically unsaturated monomers containing hydroxyl groups, **C**.
2. Radiation-curable unsaturated polyesterurethane resins **ABC** according to Claim 1, characterised in that the polyesters **A** are derived from dihydric linear, branched or cyclic aliphatic alcohols **A1** having from 2 to 20 carbon atoms, optionally trihydric or more than trihydric aliphatic alcohols **A2** having from 3 to 20 carbon atoms, at least dibasic aliphatic or aromatic acids **A3** having from 2 to 40 carbon atoms, and fatty acids **A4** having from 6 to 30 carbon atoms.
3. Radiation-curable unsaturated polyesterurethane resins **ABC** according to Claim 1, characterised in that the polyesters **A** additionally contain structural units of polyoxyalkylenepolyols **A1'** with alkylene groups having 2 to 6 carbon atoms and number-average degrees of polymerisation of from 2 to 40.
4. Radiation-curable unsaturated polyesterurethane resins **ABC** according to Claim 1, characterised in that the mass fractions of the components **A1** to **A4** in the condensation mixture for preparation of the polyester **A** are from 2 % to 20 %, from 5 % to 40 %, from 5 % to 50 % and from 15 % to 60 %, the sum of the mass fractions being 100 % in each case.
5. Radiation-curable unsaturated polyesterurethane resins **ABC** according to Claim 1, characterised in that the polyesters **A** have a hydroxyl number of from 0 mg/g to 150 mg/g and an acid number of from 5 mg/g to 200 mg/g.

6. Coating agents containing reactive diluents **D** and radiation-curable unsaturated polyesterurethane resins **ABC** according to Claim 1.

7. Coating agents according to Claim 6, characterised in that the reactive diluents **D** contain at least one double bond per molecule that is copolymerisable with the unsaturated polyesterurethane resin.

8. Coating agents according to Claim 6, characterised in that the reactive diluents **D** have a hydroxyl number of from 0 mg/g to 10 mg/g.

9. Coating agents according to Claim 6, characterised in that their mass fraction of solids is from 50 % to 70 %.

10. A method for coating substrates, comprising applying a coating agent according to Claim 6 and curing of the coating by irradiating with high-energy radiation.